

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A diagnostic imaging system comprising:
a means for supporting a subject;
a means for translating the supporting means through an examination region;
an x-ray source;
a means for rotating the x-ray source around the examination region;
a means for controlling the x-ray source to pulse the x-ray source at a selected angular location around the subject to transmit radiation through the subject as the subject is translated through the examination region;
a means for detecting transmitted radiation, which has passed through the subject; and
a means for reconstructing a pilot scan of the subject from the radiation detected when the x-ray source was pulsed at the selected angular location as the subject was translated through the examination region; and
a means for controlling the x-ray source to emit radiation for a tomographic scan, wherein the tomographic scan is based on the pilot scan and the radiation is detected by the means for detecting transmitted radiation; and
a means for reconstructing volumetric image data based on the radiation detected during the tomographic scan.
2. (Previously Presented) The diagnostic imaging system as set forth in claim 1, wherein the radiation controlling means includes an x-ray source controller.
3. (Previously Presented) The diagnostic imaging system as set forth in claim 1, further including:

a couch motor control in an operative connection with the translating means to operate the subject supporting means at a selected speed.

4. (Currently amended) The diagnostic imaging system as set forth in claim 3, further including:

a system controller which controls:

~~the~~an x-ray source controller to pulse the radiation by the x-ray source at the selected angular orientation, and

the couch motor control to translate the subject through the examination region in coordination with pulsing of the x-ray tube.

5. (Previously Presented) The diagnostic imaging system as set forth in claim 4, wherein the system controller and the x-ray source controller cause the x-ray source to pulse at least one of 6 and 12 o'clock in each revolution.

6. (Previously Presented) The diagnostic imaging system as set forth in claim 5, wherein the radiation is pulsed at both 6 and 12 o'clock.

7. (Previously Presented) The diagnostic imaging system as set forth in claim 4, wherein the x-ray radiation source controller pulses the radiation source at a plurality of the selected angular locations in each revolution.

8. (Original) The diagnostic imaging system as set forth in claim 7, wherein the angular locations are fixed every 9 degrees of rotation.

9. (Previously Presented) The diagnostic imaging system as set forth in claim 7 further including:

a means for calculating subject contour.

10. (Previously Presented) The diagnostic imaging system as set forth in claim 9, wherein the transmitted radiation received by the detection means is indicative of an attenuation of the radiation and further including:

a means for determining a radiation dose, the radiation dose being determined based on an attenuation data and subject contour.

11. (Previously Presented) The diagnostic imaging system as set forth in claim 10, further including:

a means for converting the dose calculations into parameters for a computed tomography scan.

12. (Currently amended) The diagnostic imaging system as set forth in claim 1, further including:

stationery gantry defining the subject receiving examination region;

rotating gantry which rotates about the examination region; and

~~one of air bearings and a magnetic bearings~~ for supporting the rotating gantry in the stationery gantry.

13. (Currently amended) A method for using generating a pilot scan to plan a tomographic scan, the method comprising:

supporting and translating a subject support through an examination region;

rotating a source of an x-ray radiation around the examination region;

controlling the x-ray source to pulse the x-ray source at a selected angular location around the subject support to transmit radiation through the subject as the subject is translated through the examination region;

detecting transmitted radiation, which has passed through the subject; and

reconstructing a pilot scan of the subject from the radiation detected when the x-ray source was pulsed at the selected angular location as the subject was translated through the examination region to generate an image; and

determining scan parameters for a tomographic scan based on the image.

14. (Original) The method as set forth in claim 13, further including:
controlling a position and movement of the subject support to operate the
subject support at a selected speed and orientation.
15. (Original) The method as set forth in claim 13, further including:
rotating an x-ray source at a selected speed;
pulsing an x-ray to pass on the radiation through the examination region as the
x-ray source rotates through the selected angular location; and,
moving a subject support in coordinating with the rotating and pulsing of the
x-ray source.
16. (Original) The method as set forth in claim 15, further including:
pulsing the x-ray source at least at one of 6 and 12 o'clock in each revolution.
17. (Currently amended) The method as set forth in claim ~~[[16]]~~ 15, further
including:
pulsing the x-ray source at each of 6 and 12 o'clock in each revolution.
18. (Currently amended) The method as set forth in claim ~~[[16]]~~ 15, further
including:
pulsing the x-ray source at a plurality of the selected angular locations in each
revolution.
19. (Original) The method as set forth in claim 18, wherein the angular locations
are fixed every 9 degrees of rotation.
20. (Original) The method as set forth in claim 18, further including:
calculating a subject contour.

21. (Original) The method as set forth in claim 20, wherein the subject has a non-uniform geometry and further including:

collecting an attenuation data to produce a subject absorption contour; and
determining an optimal radiation dose based on the attenuation data and subject contour to obtain a constant quality image.

22. (New) The diagnostic imaging system of claim 1, wherein the pilot scan is a pre-scan performed prior to performing the tomographic procedure, and the scan parameters for the tomographic procedure are determined based in part on an image generated from the pilot scan.